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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,348	07/31/2003	Sarah Young	11150/76	3597

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER	
LIANG, REGINA	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,348	YOUNG, SARAH	
	Examiner	Art Unit	
	Regina Liang	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment filed 3/20/06*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to amendment filed 3/20/06. Claims 1-26 are currently pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 3, 5, 7-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The original specification does not provide support for the newly added paragraph (filed on 1/16/04) on page 4, lines 11-12.

The original specification merely disclose "a control signal may be used to generate a convexly shaped region 23". The original specification does not provide adequate written description as to ***how*** a convexly shaped region (claims 3 and 5) is generated by a control signal.

The specification discloses the actuator layer is deformable in the area by pressing using a force or by touching by a user (the actuator is deformable as a function of a control signal).

The specification does not provide adequate written description as to ***how*** the actuator layer is deformable as a function of an electrical field, electromagnetic field or optical signal, e.g., light as claimed.

Claim Rejections - 35 USC § 102

5. Claims 1, 20-22, 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Cross et al (US. PUB. NO. 2003/0234759 hereinafter Cross).

The recitation that "a steering wheel", "a passenger compartment of a motor vehicle" and "a motor vehicle" (claims 20-22) has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

As to claims 1, 20-22, 23, Fig. 8 of Cross discloses a display device comprising a display (display 808), an actuator layer (touch sensor) arranged on the display. Fig. 1B of Cross teaches the actuator layer (touch sensor) including an operating surface geometry deformable as a function of a control signal (the layer 110 is deformable when touched by a user or due to a touch force).

Claim Rejections - 35 USC § 103

6. Claims 1, 2, 4-6, 11-13, 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau et al (US. PAT. NO. 6,373,472 hereinafter Palalau) in view of Cross.

As to claims 1, 23, Fig. 1 of Palalau discloses a display device comprising a display (touch screen display 148, col. 7, lines 15-49), an actuator layer (touch screen 32, 36) arranged on the display.

Palalau does not disclose the actuator layer including an operating surface geometry deformable as a function of a control signal. However, Cross an actuator layer (touch sensor) arranged on the display. Fig. 1B of Cross teaches a touch panel device having an actuator layer (touch sensor) including an operating surface geometry deformable as a function of a control signal (the layer 110 is deformable when touched by a user or due to a touch force). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the touch screen of Palalau to have an actuator layer including an operating surface geometry deformable as a function of a control signal as taught by Cross so as to provide a touch screen display system has a durable, transparent touch sensor for detecting the touch location accuracy.

As to claim 2, Palalau teaches the display is configured to display information relevant to operation of a motor vehicle (see Figs. 2b, 9a-9d).

As to claims 4, 5, Fig. 1B of Cross teaches the actuator layer is concavely deformable.

As to claim 6, Cross teaches the actuator layer is transparent ([0035]).

As to claim 11, Cross teaches the actuator layer is statically deformable at least for a duration of the control signal ([0009], [0034]).

As to claims 12, 13, Figs. 9a-9d of Palalau teaches the display or an area of the actuator layer is configured to receive entry of user input.

As to claim 16, Cross teaches the actuator layer is deformable by pressure with a force that exceeds a limit value (([0009], [0034]).

As to claims 17, 18, Palalau as modified by Cross teaches a commutating device configured to deform the actuator layer in accordance with the control signal at a point of contact of the actuator layer touched by the user or to deform the actuator layer at the point of contact only in response to an input via the display by the user by touch at the point of contact as claimed.

As to claim 19, Figs. 9a-9d of Palalau teaches the actuator layer is configured to produce an operating element.

As to claims 20-22, Palalau teaches the display device is provided in the steering wheel or passenger compartment of a motor vehicle.

7. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau and Cross, and further in view of Tannenbaum et al (US. PAT. NO. 5,252,951 hereinafter Tannenbaum).

Cross teaches the control signal is a finger touch or a conductive stylus. Palalau as modified by Cross does not disclose the control signal includes optical signal, electrical field or an electromagnetic field. However, Tannenbaum teaches the touch input device having control signal including optical signal, electrical field or an electromagnetic field (col. 1, line 57 to col. 2, line 25). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the control signal of Palalau as modified by Cross to include

optical signal, electrical field or an electromagnetic field taught by Tannenbaum thereby locating the position of the action on the touch screen desired by the user.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau and Cross, and further in view of Mulligan (US. PUB. NO. 2004/0017362).

Palalau as modified by Cross does not disclose the actuator layer includes a sol-gel. However, Mulligan teaches a touch sensor device comprising a sol-gel ([0029]).
Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the actuator layer of Palalau as modified by Cross to include a sol-gel as taught by Mulligan so as to protect the sensor bars of the touch sensor from damage due to a touch.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Palalau and Cross, and further in view of Rosenberg (US. PAT. NO. 6,429,846).

Palalau as modified by Cross does not disclose the actuator layer is controllable by haptic feedback. However. Rosenberg teaches a touch sensor device is controllable by haptic feedback (col. 1, line 65 to col. 2, line 19 for example). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the actuator layer of Palalau as modified by Cross to be controllable by haptic feedback as taught by Rosenberg since the haptic sensation output on the touch control enhance interactions and manipulations in a displayed graphical environment or when controlling an electronic device.

10. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cross or over Palalau and Cross as applied to claim 1 above, and further in view of Walezak (US. PUB. NO. 2002/0084721).

Cross or Palalau as modified by Cross does not disclose a computation device configured to generate the control signal and the operating surface geometry is deformable in response to the control signal generated by the computation device. However, Walezak teaches a touch input device having a computation device (processor 330 in Fig. 3), the operating surface geometry (piezoelectric layer) is deformable in response to the control signal generated by the computation device (see [0017], [0019]-[0020] for example). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Cross or Palalau as modified by Cross to have a computation device configured to generate the control signal as taught by Walezak as to provide "a feedback system for a user interface that has minimal space requirements and, preferably, is useable in noisy environments, by those users who prefer a quiet environment and/or by the hearing-impaired" (last five lines in [0008] of Walezak).

Response to Arguments

11. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's remarks regarding 112 first paragraph rejections in that "reference to the paragraph added by the Preliminary Amendment filed on January 14, 2004 is not understood", the new added paragraph "In an example embodiment of the present invention

the layer may be continuously actuated until touched by a user, thus created haptic feedback. The control system may release deformation on the actuator layer at the point of contact when a user made an input via the display by touching the point of contact" on page 4, lines 11-12 (filed on 1/16/04) raises new matter issue, the original specification does not provide support for the newly added subject matter.

In response to applicant's remarks regarding 112 first paragraph rejections regarding claims 3 and 5, the original specification does not provide adequate written description as to **how** a convexly shaped region is generated by a control signal. Although claims 3 and 5 are the original claims of the application, and the specification merely mention "a control signal may be used to generate a convexly shaped region 23", but the specification and the claims do not explain **how** a convexly shaped is generated. The section cited by applicant on page 2 lines 15-16 of the Specification as support for claims 3 and 5, however, page 2, lines 15-16 of the Specification does not provide any description or explanation for the claims 3 and 5. Page 3 lines 4-6 of the Specification merely mention "In an example embodiment of the present invention, the actuator layer may be able to be convexly and/or concavely deformed", however, the Speciation does not explain **how** to make the actuator layer convexly deformed.

In response to applicant's remarks regarding 112 first paragraph rejections regarding claims 7-10, page 2 lines 17-20 of the Specification as cited by application does not provide any description or explanation for claims 7-10. Page 3, lines 7-11 of the Specification discloses "In an example embodiment of the present invention, the control signal may include an optical signal, e.g., light. In an example embodiment of the present invention, the control signal may include an electrical and/or electromagnetic field", the specification does not disclose **how** the

actuator layer is deformable as a function of an electrical field, electromagnetic field or optical signal, e.g., light. For example, **how** a light signal causes the actuator layer to deform.

In response to applicant's argument regarding Cross on page 6 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an operating surface geometry is deformed by a control signal to provide haptic feedback to the user, and operating elements may be tactically simulated by deforming the operating surface geometry by an appropriate control signal) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Page 3, lines 31-33 of the Specification discloses "In an example embodiment of the present invention, the actuator layer may be deformable in response to pressing using a force that exceeds a limiting value", which means that "pressing using a force that exceeds a limiting value" is the control signal, and Cross teaches the transparent touch layer is deformable when touched by a user or due to a touch force, which reads on "the actuator layer including an operating surface geometry deformable as a function of a control signal" as claimed.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Regina Liang
Primary Examiner
Art Unit 2674

4/27/06